

Non-maintained emergency lighting anti panick lighthouse kit for manual testing for diverse applications.  
3 h rated duration.

## EM pLED ONC LiFePO4 180lm Kit Installation and wiring instructions



EM AP Lighthouse 18 mm



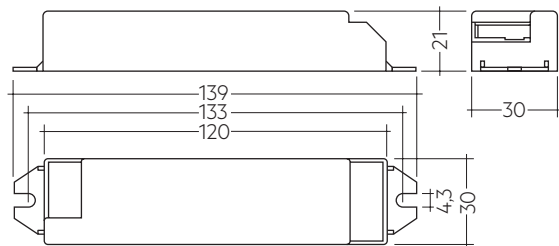
EM AP Lighthouse 36 mm

### Description

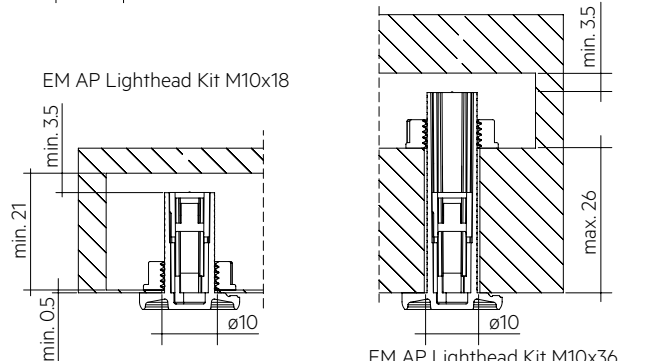
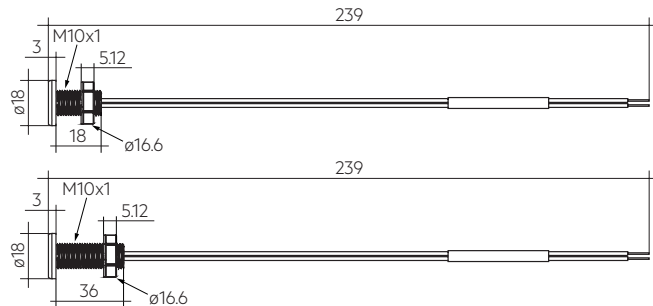
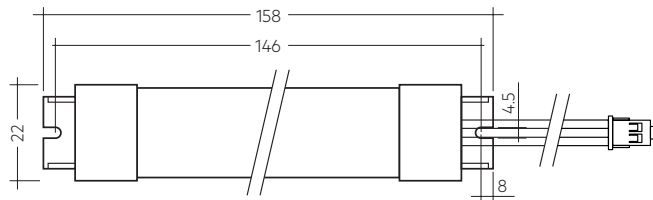
The EM AP Lighthouse Kit is a self-contained solution designed specifically for antipanic lighting, providing a reliable and efficient way to ensure safety in emergency situations. With a powerful output of 180 lumens, this kit is perfect for creating dedicated emergency luminaires that meet various application needs. The complete set includes an EM powerLED 1 W, the antipanic lighthouse with integrated indication LED and a LiFePO4 battery for an operating time of 3 hours. The antipanic lighthouses offers versatility with two different housing lengths of 18 mm and 36 mm allowing for adaptability to diverse applications. IP65 protection rating in installed state. The kit operates as non-maintained, meaning the light activates only during emergency situations, thereby conserving energy during normal conditions.

### Technical data EM pLED ONC

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Mains frequency	50 / 60 Hz
Output current	350 mA
Starting time	< 0.5 s from detection of emergency event
Overvoltage protection	320 V (for 48 h)
U-OVT (including open- / short-circuit and double load)	15 V
Battery charging time	24 h
Ambient temperature range $t_a$	-25 ... + 55 °C
Ambient temperature range $t_a$ lighthouse	-25 ... + 45 °C
Max. casing temperature $t_c$	75 °C
Mains voltage changeover threshold	according to EN 60598-2-22
Mains surge capability (between L – N)	1 kV
Mains surge capability (between L/N – PE)	2 kV
Risk group (IEC 62471)	RG2 (E <sub>thr</sub> = 658 lx, RG1 > 51 cm)
Type of protection	IP20
Lifetime	up to 100,000 h
Guarantee (conditions at <a href="http://www.tridonic.com">www.tridonic.com</a> )	5 years
Dimensions LxWxH	139 x 30 x 21 mm



Screw-fix



EM AP Lighthouse Kit M10x18

EM AP Lighthouse Kit M10x36

### Ordering data

Type	Article number	Packaging carton	Packaging Pallet	Weight per pc.
EM pLED ONC LiFePO4 180lm KIT 18mm	89801289	5 pc(s).	360 pc(s).	0.233 kg
EM pLED ONC LiFePO4 180lm KIT 36mm	89801291	5 pc(s).	360 pc(s).	0.233 kg

### Ordering note

The packaging of one carton includes 5 emergency lighting LED drivers, 5 batteries, 5 EM AP LIGHTHEAD and 5 NUT PLAST for 3 h duration.

### Battery (included)

Type	Article number	Number of cells	Type	Capacity	Case temperature range
<b>LiFePO4 cells – stick</b>					
ACCU-LiFePO4 3.0Ah 2A CON	28002318	1 x 2	stick	3.0 Ah	+5 °C to +60 °C

For detail information see driver data sheet on our WEB page.  
[www.tridonic.com](http://www.tridonic.com)

## Technical data Accu-LiFePO4 3.0 Ah

International designation	IFpR 19/66
Battery voltage/cell	3.2V
Cell type	18650
Case temperature range to ensure	
5 years design life	+5 °C to +60 °C
7 years design life	+5 °C to +55 °C
10 years design life	+5 °C to +45 °C
12 years design life	+5 °C to +35 °C
Max. short term battery case temperature (shorter than 1 month over the battery lifetime)	70 °C
Max. number discharge cycles	50 cycles total
Max. storage time	15 months at -20 °C to +35 °C

### Important

These instructions contain important safety information, read and follow them carefully. Tridonic will not accept any responsibility for injury, damage or loss, which may arise as a result of incorrect installation, operation, maintenance or disposal.

Isolate switched and unswitched mains and battery supply before installing or maintaining – high voltage will be present at LED terminals if the battery is not isolated.

High voltage insulation testing up to 500 V DC is only allowed between the line and neutral connected together and the earth.

### Note to the installer:

Please ensure this leaflet is made available to the user and/or maintenance engineer together with a test record card.

### Emergency Operation

After the switchover to emergency operation the EM pLED is detecting the total forward voltage of the connected LED modules and automatically adjusts the LED current.

### LED forward voltage

The total forward voltage of all the LED light modules operated in emergency mode is used for the decision which type of EM pLED should be used.

EM pLED ONC LiFePO4 forward voltage range:  
2.4 – 3.4 V

The total forward voltage must be within the forward voltage range of the EM pLED.

### Wiring guidelines

- EM pLED ONC LiFePO4 180lm KIT:  
The LED terminals, battery and indicator LED terminals are classified as SELV (output voltage < 60 V DC). Keep the wiring of the input terminals separated from the wiring of the SELV equivalent terminals or consider special wiring (double insulation, 6 mm creepage and clearance) when these connections should be kept SELV.
- The output to the LED is DC but has high frequency content, which should be considered for good EMC compliance.
- LED leads should be separated from the mains connections and wiring for good EMC performance.
- Battery leads are specified with 0.5 mm cross section and a length of 0.8 m
- To avoid the damage of the control gear, the wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.)

## Components matrix

Type	Article number	Kit components
<b>EM pLED ONC LiFePO4 180lm KIT 18mm</b>	<b>89801289</b>	
EM pLED ONC 201 LiFePO4 SCREW	89800701	EM LED driver
ACCU-LiFePO4 3.0Ah 2A CON	28002318	Battery
EM AP LIGHTHEAD KIT M10x18 BASIC	09815295	EM AP Lighthouse
NUT PLAST EM AP M10*1	05533322	Nut
<b>EM pLED ONC LiFePO4 180lm KIT 36mm</b>	<b>89801291</b>	
EM pLED ONC 201 LiFePO4 SCREW	89800701	EM LED driver
ACCU-LiFePO4 3.0Ah 2A CON	28002318	Battery
EM AP LIGHTHEAD KIT M10x36 BASIC	09815297	EM AP Lighthouse
NUT PLAST EM AP M10*1	05533322	Nut

Further information can be found in the respective datasheets on [www.tridonic.com](http://www.tridonic.com).

To ensure that a luminaire containing LED emergency units complies with EN 55015 for radio frequency conducted interference in both normal and emergency mode it is essential to follow good practice in the wiring layout.

Within the luminaire the switched and unswitched 50Hz supply wiring must be routed as short as possible and be kept as far away as possible from the LED leads. Through wiring may affect the emc performance of the luminaire.

For maintained operation in conjunction with a LED driver:

The length of LED leads must not be exceeded. Note the length of the EM pLED leads to the LED module adds to the length of the leads from the LED driver to the EM pLED module when considering the lead length of the LED driver.

### General notes

#### Safety

This module and associated luminaire has both an unswitched mains electricity supply and a switched supply as well as an internal battery. To ensure safety disconnect all three before installation or maintenance work begins (isolate battery by disconnecting the lead).

The LiFePO4 batteries used together with this module contain an electrolyte which can be harmful to eyes and poisonous on open wounds. Care must be taken when handling the batteries, to avoid puncturing the case. If electrolyte comes into contact with skin wash immediately in water.

Batteries must not be subjected to excessive charge or discharge currents. When working with batteries take care not to short circuit them with tools or jewellery etc.

#### Installation

Installation must be carried out by a competent person, in accordance with the national or local wiring regulations and BS 5266 Part 1; Code of Practice for Emergency Lighting. If in any doubt consult a qualified electrician.

Ensure that voltage and frequency requirements are compatible with the available supply.

Observe the correct polarity when making electrical connections.

#### Maintenance

The module does not contain serviceable parts and should not be opened. Doing so will invalidate the warranty.

#### Disposal of Batteries

Do not incinerate batteries. Whilst disposing of small quantities is possible with little or no risk, large numbers require expert handling. Consult the relevant Local Authority Health and Safety Officers.

### User Obligation

Every care is taken by Tridonic, in the design and construction of its products, to ensure that as far as is reasonably practical, the products, when properly used are safe, and without risk to health.

The health and safety at work act, however, imposes upon the users of a company's products, an obligation to ensure that all personnel involved with the installation, handling, use or disposal of the products are acquainted with the information provided by the company, and are made fully aware of any precautions that need to be taken.

### Modification

Do not attempt to modify this product. Any modification will invalidate the safety/approval marks, and may render the product unsafe. Tridonic will not accept responsibility for any modified product, or any injury damage, or loss, which may arise as a result of unauthorised modification.

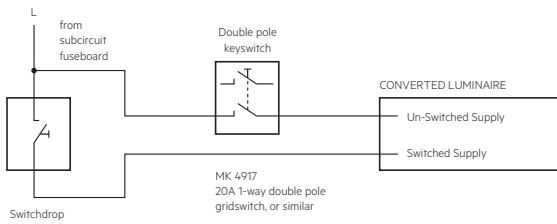
### Change of Specification

Tridonic reserve the right to change specifications without prior notification or public announcement.

### Testing

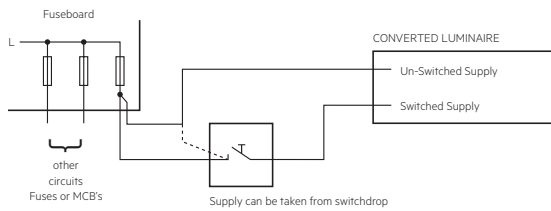
#### Test Circuit

To test luminaires converted with this module it is only necessary to provide a method for disconnecting the unswitched supply.



#### Keyswitch Testing

The unswitched mains supply to this module should be derived from a circuit which is continuously energised. Steps must be taken to ensure that this supply is not inadvertently interrupted at any time. Switches associated with this supply should either be sited in a position inaccessible to unauthorised persons, or be of a tamper proof type.



#### Fuseboard Testing

### Testing

Emergency Lighting must be regularly tested to ensure that it is working and that the batteries achieve the specified duration. Results of testing should be recorded on a test record card. Failure to do so will invalidate any warranty claims. BS 5266 specifies the following tests.

- **Daily:**  
The charge indicator (LED) should be checked to see if it is alight.
- **Monthly:**  
To check correct function, the converted luminaire should be energised from its battery for a short period.  
To ensure the full functionality is recommended to expand the function test duration to approximately 30 seconds.
- **Yearly:**  
The converted luminaire should be energised from its battery for a period of 3 hour duration.

Local regulations can deviate from the above and need to be fulfilled.

Batteries should be replaced after 4 years or if the luminaire does not meet its rated duration.

Because the failure of the supply could occur immediately after testing, the operational tests above should be carried out at times of least risk. It is important that prior to the tests the unswitched supply must have been connected for at least 24 hours. Test by disconnecting the supply as described in "Test Circuit" which will simulate mains failure.

## Optical properties

### Anti panic

#### EM pLED ONC LiFePO4 180lm KIT – Max. spacing for >0.5 lux<sup>①</sup>

Height	Centre to end <sup>②</sup>		Centre to centre <sup>③</sup>	
	Trans	Axial	Trans	Axial
2.5 m	2.75 m	2.75 m	8.60 m	8.55 m
3.0 m	2.95 m	2.95 m	9.15 m	9.15 m
4.0 m	3.25 m	3.20 m	10.10 m	10.05 m
5.0 m	3.40 m	3.35 m	11.00 m	10.95 m
6.0 m	3.40 m	3.40 m	11.75 m	11.70 m
8.0 m	2.80 m	2.80 m	12.85 m	12.80 m

All values for  $t_a = 30^\circ\text{C}$

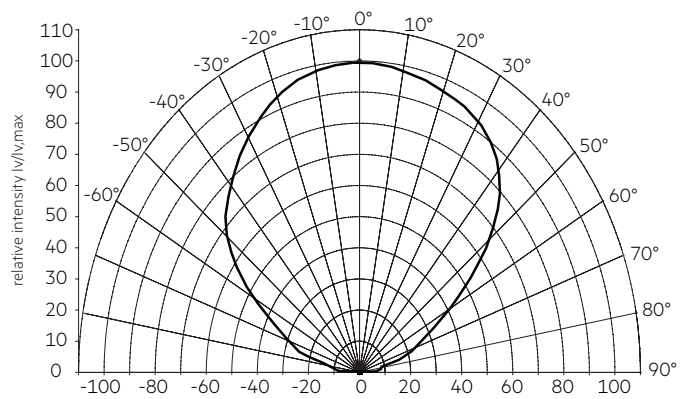
Luminous flux: 169 lm

① Maintenance factor = 0.8, photometric data available on request

② Distance between module and wall

③ Distance between two modules

### Light distribution



### Wiring diagram

